9/834736

```
B AUTO, 2
      22feb06 12:45:44 User264717 Session D418.1
          $0.00 . 0.323 DialUnits FileHomeBase
    $0.00  Estimated cost FileHomeBase
    $0.06  INTERNET
    $0.06  Estimated cost this search
    $0.06  Estimated total session cost   0.323 DialUnits

SYSTEM:OS  - DIALOG OneSearch
  File   6:NTIS 1964-2006/Feb W1
         (c) 2006 NTIS, Intl Cpyrght All Rights Res
  File   8:Ei Compendex(R) 1970-2006/Feb W2
         (c) 2006 Elsevier Eng.  Info. Inc.
  File  25:Weldasearch-19662006/Jan (c) 2006 TWI Ltd
  File  36:MetalBase 1965-20060220
         (c) 2006 The Dialog Corporation
  File  63:Transport Res(TRIS) 1970-2006/Jan
         (c) fmt only 2006 Dialog
  File  65:Inside Conferences 1993-2006/Feb W3
         (c) 2006 BLDSC all rts. reserv.
  File  81:MIRA - Motor Industry Research 2001-2006/Dec
         (c) 2006 MIRA Ltd.
  File  94:JICST-EPlus 1985-2006/Nov W4
         (c)2006 Japan Science and Tech Corp(JST)
  File  95:TEME-Technology & Management 1989-2006/Feb W3
         (c) 2006 FIZ TECHNIK
  File 266:FEDRIP 2005/Dec
         Comp & dist by NTIS, Intl Copyright All Rights Res
  File   2:INSPEC 1898-2006/Feb W2
         (c) 2006 Institution of Electrical Engineers
 *File   2: Archive data back to 1898 has been added to File 2.

      Set  Items  Description
      ---  -----  -----------
?
```

```
Set       Items    Description
S1          0    ((CURVE? (S) ROAD? (S) VEHICLE?) (S) (DETERMIN? OR ESTIMAT-
                 ?)) AND (GRADIENT? (7W) PIXEL?) AND PD<=000414
S2          0    ((CURVE? (S) ROAD? (S) VEHICLE?) (S) (DETERMIN? OR ESTIMAT-
                 ?)) AND (GRADIENT? (9N) PIXEL?) AND PD<=000414
S3          0    (MONITOR? (3W) MOTION? (3W) VEHICLE?)  AND CAMERA AND ((ES-
                 TIMAT? OR DETERMIN?)(3W) CURVE?) AND PD<=000414
S4          0    (MONITOR? (3W) (MOTION? OR MOV?))  AND CAMERA AND ((ESTIMA-
                 T? OR DETERMIN?)(3W) CURVE?) AND PD<=000414
S5          0    (MONITOR? (3W) (MOTION? OR MOV???))  AND CAMERA AND  (CURV-
                 E? (5N)(ESTIMAT? OR DETERMIN?)) AND PD<=000414
S6          0    (MONITOR? (3N) (MOTION? OR MOV???))  AND CAMERA AND  (CURV-
                 E? (5N)(ESTIMAT? OR DETERMIN?))
?
```

```
S ((CURVE? (S) ROAD? (S) VEHICLE?) (S) (DETERMIN? OR ESTIMAT?)) AND (GRADIENT? (7W)
>>>One or more prefixes are unsupported
>>>  or undefined in one or more files.
>>>File 25 processing for PD=  : PD=000414
>>>    started at PD=19080000 stopped at PD=19920106
>>>File 63 processing for PD=  : PD=000414
>>>    started at PD=DATED stopped at PD=19680517
>>>File 81 processing for PD=  : PD=000414
>>>    started at PD=19390728 stopped at PD=19920325
Processing
Processed  10 of  11 files ...
Completed processing all files
          704180  CURVE?
          352758  ROAD?
          595861  VEHICLE?
         3049343  DETERMIN?
         1547940  ESTIMAT?
             566  CURVE?(S)ROAD?(S)VEHICLE?(S)(DETERMIN? OR ESTIMAT?)
          324977  GRADIENT?
          103647  PIXEL?
             378  GRADIENT?(7W)PIXEL?
         1271855  PD<=000414
  S1         0  ((CURVE? (S) ROAD? (S) VEHICLE?) (S) (DETERMIN? OR
                 ESTIMAT?)) AND (GRADIENT? (7W) PIXEL?) AND PD<=000414
?
```

```
S ((CURVE? (S) ROAD? (S) VEHICLE?) (S) (DETERMIN? OR ESTIMAT?)) AND (GRADIENT? (9N)
>>>One or more prefixes are unsupported
>>>  or undefined in one or more files.
>>>File 25 processing for PD=  : PD=000414
>>>    started at PD=19080000 stopped at PD=19920106
>>>File 63 processing for PD=  : PD=000414
>>>    started at PD=DATED stopped at PD=19680517
>>>File 81 processing for PD=  : PD=000414
>>>    started at PD=19390728 stopped at PD=19920325
        704180  CURVE?
        352758  ROAD?
        595861  VEHICLE?
       3049343  DETERMIN?
       1547940  ESTIMAT?
           566  CURVE?(S)ROAD?(S)VEHICLE?(S)(DETERMIN? OR ESTIMAT?)
        324977  GRADIENT?
        103647  PIXEL?
           751  GRADIENT?(9N)PIXEL?
       1271855  PD<=000414
  S2       0  ((CURVE? (S) ROAD? (S) VEHICLE?) (S) (DETERMIN? OR
                ESTIMAT?)) AND (GRADIENT? (9N) PIXEL?) AND PD<=000414
?
```

```
S (MONITOR? (3W) MOTION? (3W) VEHICLE?)   AND CAMERA AND ((ESTIMAT? OR DETERMIN?)(3W)
>>>One or more prefixes are unsupported
>>>  or undefined in one or more files.
>>>File 25 processing for PD=   : PD=000414
>>>     started at PD=19080000 stopped at PD=19920106
>>>File 63 processing for PD=   : PD=000414
>>>     started at PD=DATED stopped at PD=19680517
>>>File 81 processing for PD=   : PD=000414
>>>     started at PD=19390728 stopped at PD=19920325
           772921  MONITOR?
           885436  MOTION?
           595861  VEHICLE?
               21  MONITOR?(3W)MOTION?(3W)VEHICLE?
           163632  CAMERA
          1547940  ESTIMAT?
          3049343  DETERMIN?
           704180  CURVE?
            11451  (ESTIMAT? OR DETERMIN?)(3W)CURVE?
          1271855  PD<=000414
     S3        0  (MONITOR? (3W) MOTION? (3W) VEHICLE?)   AND CAMERA AND
                  ((ESTIMAT? OR DETERMIN?)(3W) CURVE?) AND PD<=000414
?
```

```
    S (MONITOR? (3W) (MOTION? OR MOV?))  AND CAMERA AND ((ESTIMAT? OR DETERMIN?)(3W) CUR
>>>One or more prefixes are unsupported
>>>  or undefined in one or more files.
>>>File 25 processing for PD=  : PD=000414
>>>     started at PD=19080000 stopped at PD=19920106
>>>File 63 processing for PD=  : PD=000414
>>>     started at PD=DATED stopped at PD=19680517
>>>File 81 processing for PD=  : PD=000414
>>>     started at PD=19390728 stopped at PD=19920325
          772921  MONITOR?
          885436  MOTION?
          788160  MOV?
            4252  MONITOR?(3W)(MOTION? OR MOV?)
          163632  CAMERA
         1547940  ESTIMAT?
         3049343  DETERMIN?
          704180  CURVE?
           11451  (ESTIMAT? OR DETERMIN?)(3W)CURVE?
         1271855  PD<=000414
    S4        0  (MONITOR? (3W) (MOTION? OR MOV?))  AND CAMERA AND
                 ((ESTIMAT? OR DETERMIN?)(3W) CURVE?) AND PD<=000414
?
```

```
S (MONITOR? (3W) (MOTION? OR MOV???))  AND CAMERA AND (CURVE? (5N)(ESTIMAT? OR DETE
>>>One or more prefixes are unsupported
>>>  or undefined in one or more files.
>>>File 25 processing for PD=  : PD=000414
>>>     started at PD=19080000 stopped at PD=19920106
>>>File 63 processing for PD=  : PD=000414
>>>     started at PD=DATED stopped at PD=19680517
>>>File 81 processing for PD=  : PD=000414
>>>     started at PD=19390728 stopped at PD=19920325
           772921  MONITOR?
           885436  MOTION?
           465089  MOV???
             1960  MONITOR?(3W)(MOTION? OR MOV???)
           163632  CAMERA
           704180  CURVE?
          1547940  ESTIMAT?
          3049343  DETERMIN?
            34849  CURVE?(5N)(ESTIMAT? OR DETERMIN?)
          1271855  PD<=000414
     S5        0  (MONITOR? (3W) (MOTION? OR MOV???))  AND CAMERA AND
                  (CURVE? (5N)(ESTIMAT? OR DETERMIN?)) AND PD<=000414
?
```

```
S (MONITOR? (3N) (MOTION? OR MOV???))   AND CAMERA AND   (CURVE? (5N)(ESTIMAT? OR DETE
          772921  MONITOR?
          885436  MOTION?
          465089  MOV???
            3193  MONITOR?(3N)(MOTION? OR MOV???)
          163632  CAMERA
          704180  CURVE?
         1547940  ESTIMAT?
         3049343  DETERMIN?
           34849  CURVE?(5N)(ESTIMAT? OR DETERMIN?)
    S6         0  (MONITOR? (3N) (MOTION? OR MOV???))   AND CAMERA AND
                  (CURVE? (5N)(ESTIMAT? OR DETERMIN?))
?
```

```
S (CURVE (S) ROAD (S)  VEHICLE (S) ESTIMAT???) AND (GRADIENT (7W) PIXEL) AND
PD<=000414
>>>One or more prefixes are unsupported
>>>  or undefined in one or more files.
>>>File 14 processing for PD=  : PD=000414
>>>    started at PD=APR.0000 stopped at PD=19830314
>>>File 25 processing for PD=  : PD=000414
>>>    started at PD=19080000 stopped at PD=19920106
>>>File 33 processing for PD=  : PD=000414
>>>    started at PD=JUNE0000 stopped at PD=19820607
>>>File 60 processing for PD=  : PD=000414
>>>    started at PD=NOV.0000 stopped at PD=19871222
>>>File 61 processing for PD=  : PD=000414
>>>    started at PD=APR.0000 stopped at PD=19890308
>>>File 63 processing for PD=  : PD=000414
>>>    started at PD=DATED stopped at PD=19680517
>>>File 81 processing for PD=  : PD=000414
>>>    started at PD=19390728 stopped at PD=19920325
>>>File 87 processing for PD=  : PD=000414
>>>    started at PD=040129 stopped at PD=19730205
Processing
>>>File 99 processing for PD=  : PD=000414
>>>    started at PD=DEC.1200 stopped at PD=19910204
Processed  20 of  38 files ...
>>>File 103 processing for PD=  : PD=000414
>>>    started at PD=0210 stopped at PD=19740401
>>>File 104 processing for PD=  : PD=000414
>>>    started at PD=AGAJANIAN091998 stopped at PD=19651008
>>>File 118 processing for PD=  : PD=000414
>>>    started at XP=0 stopped at XP=19830519
>>>File 134 processing for PD=  : PD=000414
>>>    started at PD=N.D.0000 stopped at PD=19980300
>>>File 144 processing for PD=  : PD=000414
>>>    started at PD=18019 stopped at PD=198311
>>>File 240 processing for PD=  : PD=000414
>>>    started at PD=280229 stopped at PD=740412
>>>File 293 processing for PD=  : PD=000414
>>>    started at PD=APR.0000 stopped at PD=19961230
>>>File 315 processing for PD=  : PD=000414
>>>    started at PD=19370000 stopped at PD=19800707
Completed processing all files
        769200  CURVE
        452465  ROAD
        721083  VEHICLE
       3648146  ESTIMAT???
           119  CURVE(S)ROAD(S)VEHICLE(S)ESTIMAT???
        688004  GRADIENT
        121545  PIXEL
           347  GRADIENT(7W)PIXEL
      12498837  PD<=000414
   S2       0  (CURVE (S) ROAD (S)  VEHICLE (S) (determmin? Or ESTIMAT???)
) AND
```

(GRADIENT (7W) PIXEL) AND PD<=000414

S (CURVE (S) ROAD (S) VEHICLE (S) ESTIMAT???) AND (GRADIENT (9W) PIXEL) AND
PD<=000414
>>>One or more prefixes are unsupported
>>> or undefined in one or more files.
>>>File 14 processing for PD= : PD=000414
>>>   started at PD=APR.0000 stopped at PD=19830314
>>>File 25 processing for PD= : PD=000414
>>>   started at PD=19080000 stopped at PD=19920106
>>>File 33 processing for PD= : PD=000414
>>>   started at PD=JUNE0000 stopped at PD=19820607
>>>File 60 processing for PD= : PD=000414
>>>   started at PD=NOV.0000 stopped at PD=19871222
>>>File 61 processing for PD= : PD=000414
>>>   started at PD=APR.0000 stopped at PD=19890308
>>>File 63 processing for PD= : PD=000414
>>>   started at PD=DATED stopped at PD=19680517
>>>File 81 processing for PD= : PD=000414
>>>   started at PD=19390728 stopped at PD=19920325
>>>File 87 processing for PD= : PD=000414
>>>   started at PD=040129 stopped at PD=19730205
>>>File 99 processing for PD= : PD=000414
>>>   started at PD=DEC.1200 stopped at PD=19910204
>>>File 103 processing for PD= : PD=000414
>>>   started at PD=0210 stopped at PD=19740401
Processing
>>>File 104 processing for PD= : PD=000414
>>>   started at PD=AGAJANIAN091998 stopped at PD=19651008
Processed 20 of 38 files ...
>>>File 118 processing for PD= : PD=000414
>>>   started at XP=0 stopped at XP=19830519
>>>File 134 processing for PD= : PD=000414
>>>   started at PD=N.D.0000 stopped at PD=19980300
>>>File 144 processing for PD= : PD=000414
>>>   started at PD=18019 stopped at PD=198311
>>>File 240 processing for PD= : PD=000414
>>>   started at PD=280229 stopped at PD=740412
>>>File 293 processing for PD= : PD=000414
>>>   started at PD=APR.0000 stopped at PD=19961230
>>>File 315 processing for PD= ' : PD=000414
>>>   started at PD=19370000 stopped at PD=19800707
Completed processing all files
         769200 CURVE
         452465 ROAD
         721083 VEHICLE
        3648146 ESTIMAT???
            119 CURVE(S)ROAD(S)VEHICLE(S)ESTIMAT???
         688004 GRADIENT
         121545 PIXEL
            399 GRADIENT(9W)PIXEL
       12498837 PD<=000414
    S3   0 (CURVE (S) ROAD (S) VEHICLE (S) ESTIMAT???) AND
         (GRADIENT (9W) PIXEL) AND PD<=000414

S (MONITOR? (3W) MOTION (3W) VEHICLE) AND CAMERA AND ((ESTIMAT? OR DETERMIN?)
(3W) CURVE) AND PD<=000414
>>>One or more prefixes are unsupported

```
>>>   or undefined in one or more files.
>>>File 14 processing for PD=   : PD=000414
>>>     started at PD=APR.0000 stopped at PD=19830314
>>>File 25 processing for PD=   : PD=000414
>>>     started at PD=19080000 stopped at PD=19920106
>>>File 33 processing for PD=   : PD=000414
>>>     started at PD=JUNE0000 stopped at PD=19820607
Processing
Processed  10 of  38 files ...
>>>File 60 processing for PD=   : PD=000414
>>>     started at PD=NOV.0000 stopped at PD=19871222
>>>File 61 processing for PD=   : PD=000414
>>>     started at PD=APR.0000 stopped at PD=19890308
>>>File 63 processing for PD=   : PD=000414
>>>     started at PD=DATED stopped at PD=19680517
>>>File 81 processing for PD=   : PD=000414
>>>     started at PD=19390728 stopped at PD=19920325
>>>File 87 processing for PD=   : PD=000414
>>>     started at PD=040129 stopped at PD=19730205
>>>File 99 processing for PD=   : PD=000414
>>>     started at PD=DEC.1200 stopped at PD=19910204
>>>File 103 processing for PD=   : PD=000414
>>>     started at PD=0210 stopped at PD=19740401
Processing
>>>File 104 processing for PD=   : PD=000414
>>>     started at PD=AGAJANIAN091998 stopped at PD=19651008
Processed  20 of  38 files ...
>>>File 118 processing for PD=   : PD=000414
>>>     started at XP=0 stopped at XP=19830519
>>>File 134 processing for PD=   : PD=000414
>>>     started at PD=N.D.0000 stopped at PD=19980300
>>>File 144 processing for PD=   : PD=000414
>>>     started at PD=18019 stopped at PD=198311
>>>File 240 processing for PD=   : PD=000414
>>>     started at PD=280229 stopped at PD=740412
>>>File 293 processing for PD=   : PD=000414
>>>     started at PD=APR.0000 stopped at PD=19961230
>>>File 315 processing for PD=   : PD=000414
>>>     started at PD=19370000 stopped at PD=19800707
Processing
Processed  30 of  38 files ...
Completed processing all files
        1897887   MONITOR?
        1546352   MOTION
         721083   VEHICLE
             14   MONITOR?(3W)MOTION(3W)VEHICLE
         292009   CAMERA
        3685127   ESTIMAT?
        8603352   DETERMIN?
         769200   CURVE
          11455   (ESTIMAT? OR DETERMIN?)(3W)CURVE
       12498837   PD<=000414
   S1         0   (MONITOR? (3W) MOTION (3W) VEHICLE) AND CAMERA AND
```

((ESTIMAT? OR DETERMIN?) (3W) CURVE) AND PD<=000414

```
S (MONITOR? (3W) (MOTION OR MOV???)) AND CAMERA AND ((ESTIMAT? OR DETERMIN?)
(3W) CURVE) AND PD<=000414
>>>One or more prefixes are unsupported
>>>  or undefined in one or more files.
>>>File 14 processing for PD=   : PD=000414
>>>    started at PD=APR.0000 stopped at PD=19830314
>>>File 25 processing for PD=   : PD=000414
>>>    started at PD=19080000 stopped at PD=19920106
>>>File 33 processing for PD=   : PD=000414
>>>    started at PD=JUNE0000 stopped at PD=19820607
Processing
>>>File 60 processing for PD=   : PD=000414
>>>    started at PD=NOV.0000 stopped at PD=19871222
>>>File 61 processing for PD=   : PD=000414
>>>    started at PD=APR.0000 stopped at PD=19890308
>>>File 63 processing for PD=   : PD=000414
>>>    started at PD=DATED stopped at PD=19680517
Processed  10 of  38 files ...
>>>File 81 processing for PD=   : PD=000414
>>>    started at PD=19390728 stopped at PD=19920325
>>>File 87 processing for PD=   : PD=000414
>>>    started at PD=040129 stopped at PD=19730205
>>>File 99 processing for PD=   : PD=000414
>>>    started at PD=DEC.1200 stopped at PD=19910204
>>>File 103 processing for PD=   : PD=000414
>>>    started at PD=0210 stopped at PD=19740401
>>>File 104 processing for PD=   : PD=000414
>>>    started at PD=AGAJANIAN091998 stopped at PD=19651008
>>>File 118 processing for PD=   : PD=000414
>>>    started at XP=0 stopped at XP=19830519
>>>File 134 processing for PD=   : PD=000414
>>>    started at PD=N.D.0000 stopped at PD=19980300
>>>File 144 processing for PD=   : PD=000414
>>>    started at PD=18019 stopped at PD=198311
Processing
Processed  30 of  38 files ...
>>>File 240 processing for PD=   : PD=000414
>>>    started at PD=280229 stopped at PD=740412
>>>File 293 processing for PD=   : PD=000414
>>>    started at PD=APR.0000 stopped at PD=19961230
>>>File 315 processing for PD=   : PD=000414
>>>    started at PD=19370000 stopped at PD=19800707
Completed processing all files
         1897887   MONITOR?
         1546352   MOTION
         1024132   MOV???
            3329   MONITOR? (3W) (MOTION OR MOV???)
          292009   CAMERA
         3685127   ESTIMAT?
         8603352   DETERMIN?
          769200   CURVE
           11455   (ESTIMAT? OR DETERMIN?) (3W) CURVE
        12498837   PD<=000414
      S2       0   (MONITOR? (3W) (MOTION OR MOV???)) AND CAMERA AND
                   ((ESTIMAT? OR DETERMIN?) (3W) CURVE) AND PD<=000414
  ?
```

S (MONITOR? (3W) (MOTION OR MOV???)) AND CAMERA AND (CURV? (3W) (ESTIMAT? OR
DETERMIN?)) AND PD<=000414
>>>One or more prefixes are unsupported
>>> or undefined in one or more files.
>>>File 14 processing for PD=   : PD=000414
>>>   started at PD=APR.0000 stopped at PD=19830314
>>>File 25 processing for PD=   : PD=000414
>>>   started at PD=19080000 stopped at PD=19920106
>>>File 33 processing for PD=   : PD=000414
>>>   started at PD=JUNE0000 stopped at PD=19820607
Processing
>>>File 60 processing for PD=   : PD=000414
>>>   started at PD=NOV.0000 stopped at PD=19871222
>>>File 61 processing for PD=   : PD=000414
>>>   started at PD=APR.0000 stopped at PD=19890308
>>>File 63 processing for PD=   : PD=000414
>>>   started at PD=DATED stopped at PD=19680517
Processed 10 of 38 files ...
>>>File 81 processing for PD=   : PD=000414
>>>   started at PD=19390728 stopped at PD=19920325
>>>File 87 processing for PD=   : PD=000414
>>>   started at PD=040129 stopped at PD=19730205
>>>File 99 processing for PD=   : PD=000414
>>>   started at PD=DEC.1200 stopped at PD=19910204
>>>File 103 processing for PD=   : PD=000414
>>>   started at PD=0210 stopped at PD=19740401
>>>File 104 processing for PD=   : PD=000414
>>>   started at PD=AGAJANIAN091998 stopped at PD=19651008
>>>File 118 processing for PD=   : PD=000414
>>>   started at XP=0 stopped at XP=19830519
>>>File 134 processing for PD=   : PD=000414
>>>   started at PD=N.D.0000 stopped at PD=19980300
>>>File 144 processing for PD=   : PD=000414
>>>   started at PD=18019 stopped at PD=198311
Processing
Processed 30 of 38 files ...
>>>File 240 processing for PD=   : PD=000414
>>>   started at PD=280229 stopped at PD=740412
>>>File 293 processing for PD=   : PD=000414
>>>   started at PD=APR.0000 stopped at PD=19961230
>>>File 315 processing for PD=   : PD=000414
>>>   started at PD=19370000 stopped at PD=19800707
Completed processing all files
          1897887   MONITOR?
          1546352   MOTION
          1024132   MOV???
             3329   MONITOR?(3W)(MOTION OR MOV???)
           292009   CAMERA
          1866371   CURV?
          3685127   ESTIMAT?
          8603352   DETERMIN?
            31276   CURV?(3W)(ESTIMAT? OR DETERMIN?)
         12498837   PD<=000414
     S3   0   (MONITOR? (3W) (MOTION OR MOV???)) AND CAMERA AND (CURV?
           (3W) (ESTIMAT? OR DETERMIN?)) AND PD<=000414

```
S (MONITOR? (3W) (MOTION OR MOV???)) AND CAMERA AND (CURV? (3N) (ESTIMAT? OR
DETERMIN?))
Processing
Processed  30 of  38 files ...
Completed processing all files
        1897887  MONITOR?
        1546352  MOTION
        1024132  MOV???
           3329  MONITOR?(3W)(MOTION OR MOV???)
         292009  CAMERA
        1866371  CURV?
        3685127  ESTIMAT?
        8603352  DETERMIN?
          58719  CURV?(3N)(ESTIMAT? OR DETERMIN?)
     S4       0  (MONITOR? (3W) (MOTION OR MOV???)) AND CAMERA AND (CURV?
        (3N)(ESTIMAT? OR DETERMIN?))
```

Hit List

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| Generate OACS |

Search Results - Record(s) 1 through 8 of 8 returned.

☐ 1. Document ID: US 6501848 B1

Using default format because multiple data bases are involved.

    L5: Entry 1 of 8   File: USPT   Dec 31, 2002

    US-PAT-NO: 6501848
    DOCUMENT-IDENTIFIER: US 6501848 B1

    TITLE: Method and apparatus for three-dimensional reconstruction of coronary
    vessels from angiographic images and analytical techniques applied thereto

    DATE-ISSUED: December 31, 2002

    INVENTOR-INFORMATION:
    NAME   CITY   STATE   ZIP CODE   COUNTRY
    Carroll; John   Littleton   CO
    Chen; Shiuh-Yung James   Denver   CO

    US-CL-CURRENT: 382/128; 382/285, 434/272

| Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De |

☐ 2. Document ID: US 6460127 B1

    L5: Entry 2 of 8   File: USPT   Oct 1, 2002

    US-PAT-NO: 6460127
    DOCUMENT-IDENTIFIER: US 6460127 B1
    ** See image for Certificate of Correction **

    TITLE: Apparatus and method for signal processing

| Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De |

☐ 3. Document ID: US 6424430 B1

    L5: Entry 3 of 8   File: USPT   Jul 23, 2002

    US-PAT-NO: 6424430
    DOCUMENT-IDENTIFIER: US 6424430 B1
    ** See image for Certificate of Correction **

TITLE: Rendering of objects on graphical rendering devices as clipped images

| Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De |

☐ 4. Document ID: US 6313840 B1

    L5: Entry 4 of 8   File: USPT   Nov 6, 2001

US-PAT-NO: 6313840
DOCUMENT-IDENTIFIER: US 6313840 B1

TITLE: Smooth shading of objects on display devices

| Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De |

☐ 5. Document ID: US 6128046 A

    L5: Entry 5 of 8   File: USPT   Oct 3, 2000

US-PAT-NO: 6128046
DOCUMENT-IDENTIFIER: US 6128046 A

TITLE: Key signal generating apparatus and picture synthesis apparatus, and key
signal generating method and picture synthesis method

| Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De |

☐ 6. Document ID: US 6097839 A

    L5: Entry 6 of 8   File: USPT   Aug 1, 2000

US-PAT-NO: 6097839
DOCUMENT-IDENTIFIER: US 6097839 A
** See image for **Certificate of Correction** **

TITLE: Method and apparatus for automatic discriminating and locating patterns such
as finder patterns, or portions thereof, in machine-readable symbols

| Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De |

☐ 7. Document ID: US 5717781 A

    L5: Entry 7 of 8   File: USPT   Feb 10, 1998

US-PAT-NO: 5717781
DOCUMENT-IDENTIFIER: US 5717781 A

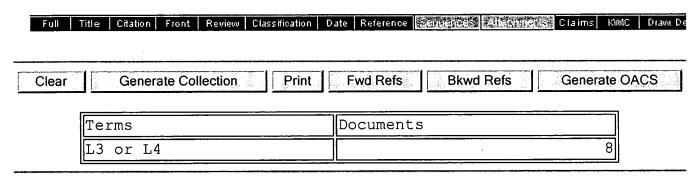TITLE: Ophthalmic lens inspection method and apparatus

| Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De |

☐ 8.   Document ID: US 4910786 A

L5: Entry 8 of 8   File: USPT   Mar 20, 1990

US-PAT-NO: 4910786
DOCUMENT-IDENTIFIER: US 4910786 A

TITLE: Method of detecting intensity edge paths

| Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De |

| Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS |

Terms	Documents
L3 or L4	8

Display Format: [-] [Change Format]

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L5: Entry 3 of 8   File: USPT   Jul 23, 2002

US-PAT-NO: 6424430
DOCUMENT-IDENTIFIER: US 6424430 B1
** See image for Certificate of Correction **

TITLE: Rendering of objects on graphical rendering devices as clipped images

DATE-ISSUED: July 23, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bilodeau; William D.	Boulder Creek	CA		
George; Paul	Los Altos	CA		
Lazarony, Jr.; David R.	San Jose	CA		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Adobe Systems Incorporated	San Jose	CA			02

APPL-NO: 09/072503   [PALM]
DATE FILED: May 4, 1998

PARENT-CASE:
The application is a continuation in part of U.S. Application Ser. No. 09/056,894,
entitled "RENDERING OF OBJECTS ON GRAPHICAL RENDERING DEVICES AS CLIPPED IMAGES,"
filed by William D. Bilodeau, Paul George and David R. Lazarony on Apr. 6, 1998.

INT-CL-ISSUED: [07] G06 F 15/00, G06 K 1/00

US-CL-ISSUED: 358/1.2; 358/1.18, 382/260
US-CL-CURRENT: 358/1.2; 358/1.18, 382/260

FIELD-OF-CLASSIFICATION-SEARCH: 382/181, 382/196, 382/242, 382/243, 382/266,
382/199, 358/1.18, 358/1.17, 358/1.2, 364/516, 364/559, 345/425, 345/427
See application file for complete search history.

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

⎢   Search Selected   ⎢ ⎢   Search ALL   ⎢ ⎢   Clear   ⎢

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	5544291	August 1996	Gilley et al.	345/423
☐	6124858	September 2000	Ge et al.	345/425

ART-UNIT: 2622

PRIMARY-EXAMINER: Coles; Edward

ASSISTANT-EXAMINER: Lamb; Twyler

ATTY-AGENT-FIRM: Fish & Richardson P.C.

ABSTRACT:

The invention renders a resolution independent object having a silhouette by
rendering the object to a buffer, determining the silhouette of the object from the
buffer, generating a clipped image of the silhouette, and rendering the clipped
image on the graphical rendering system.

35 Claims, 9 Drawing figures

L5: Entry 6 of 8   File: USPT   Aug 1, 2000

US-PAT-NO: 6097839
DOCUMENT-IDENTIFIER: US 6097839 A
** See image for **Certificate of Correction** **

TITLE: Method and apparatus for automatic discriminating and locating patterns such
as finder patterns, or portions thereof, in machine-readable symbols

DATE-ISSUED: August 1, 2000

INVENTOR-INFORMATION:
NAME	CITY	STATE	ZIP CODE	COUNTRY
Liu; Lingnan	Mill Creek	WA		

ASSIGNEE-INFORMATION:
NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Intermec IP Corporation	Beverly Hills	CA			02

APPL-NO: 08/814001   [PALM]
DATE FILED: March 10, 1997

INT-CL-ISSUED: [07] G06 K 7/10, G06 K 9/00

US-CL-ISSUED: 382/181; 235/462
US-CL-CURRENT: 382/181; 235/462.01

FIELD-OF-CLASSIFICATION-SEARCH: 235/462-464, 382/181-3, 382/197, 382/198, 382/267,
382/269
See application file for complete search history.

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

[Search Selected] [Search ALL] [Clear]

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
□	4874936	October 1989	Chandler et al.	235/494
□	4916298	April 1990	Raphael	235/463
□	4998010	March 1991	Chandler et al.	235/494
□	5031227	July 1991	Raasch et al.	382/22
□	5052044	September 1991	Gaborski	382/32
□	5073955	December 1991	Evers	382/21

☐	5124537	June 1992	Chandler et al.	235/462
☐	5155343	October 1992	Chandler et al.	235/462
☐	5189292	February 1993	Batterman et al.	235/494
☐	5233670	August 1993	Dufour et al.	382/22
☐	5241166	August 1993	Chandler	235/494
☐	5243655	September 1993	Wang	380/51
☐	5276315	January 1994	Surka	235/462
☐	5319181	June 1994	Shellhammer et al.	235/462
☐	5324923	June 1994	Cymbalski et al.	235/454
☐	5373147	December 1994	Noda	235/462
☐	5376780	December 1994	Klueter	235/462
☐	5668893	September 1997	Kanda et al.	382/197
☐	5719967	February 1998	Sekine	382/266
☐	5739518	April 1998	Wang	235/462
☐	5777309	July 1998	Maltsev et al.	235/462
☐	5781667	July 1998	Schmidt et al.	382/308
☐	5790701	August 1998	Shijo et al.	382/205
☐	5854478	December 1998	Liu et al.	235/462
☐	5881171	March 1999	Kinjo	382/199

OTHER PUBLICATIONS

Gonzalez, Rafael C. and Paul Wintz, Digital Image Processing, Addison-Wesley
Publishing Company, Reading, Massachusetts, 1977, pp. 39-47.
Davies, E.R., Machine Vision: Theory, Algorithms, Practicalities, Academic Press,
London, 1989, pp. 207-215 and 265-271.
Pavlidis, Theo et al., "Information Encoding with Two-Dimensional Bar Codes,"
Computer, Jun., 1992, pp. 18-28.
Russ, John C., The Image Processing Handbook, CRC Press, Boca Raton, Florida, Nov.,
1994, pp. 170-189.

ART-UNIT: 273

PRIMARY-EXAMINER: Au; Amelia

ASSISTANT-EXAMINER: Miller; Martin E

ATTY-AGENT-FIRM: Perkins Coie LLP

ABSTRACT:

A method and apparatus for locating geometric shapes or edges thereof in data
collection symbols initially samples and stores an image of light reflected from
the symbol. Thereafter, two routines are performed. A first routine performs low
level vision processing by identifying linked points along edges, lines, curves or
within shapes. A rapid pixel linking subroutine identifies edge pixels in symbol
images lacking distortion. If the edge or shape suffers from distortions, then one

or more distortion compensating subroutines locate sequential linked pixels despite such distortions. The resulting coordinates of linked points, which represent lines, curves and other geometric shapes, are then employed by a second routine which identifies patterns within the identified lines/curves. Based on these identified patterns, types of symbols from various symbologies can be identified and located within the stored image.

29 Claims, 17 Drawing figures

☐   Generate Collection | Print|

L5: Entry 6 of 8   File: USPT   Aug 1, 2000

DOCUMENT-IDENTIFIER: US 6097839 A
** See image for Certificate of Correction **
TITLE: Method and apparatus for automatic discriminating and locating patterns such
as finder patterns, or portions thereof, in machine-readable symbols

Application Filing Date (1):
19970310

Detailed Description Text (33):
The CPU 14 again performs steps 208, 210, 214, 216, 218, and 220 as the CPU
incrementally examines pixels extending along a gradient direction through the
current shape. If the image intensity value I.sub.m of a currently examined point
is greater than the intensity threshold I.sub.thresh in step 210, or the counter
value n is greater than the maximum X dimension M in step 216, then the CPU 14
outputs the current value of the counter n, the summation of the intensity values
Sum, and the list of X and Y axes coordinates of the points examined along the
gradient direction under step 212, and the subroutine 202 ends.

Detailed Description Text (36):
Referring to FIG. 10, the CPU 14 in step 222 must locate the centerpoint C of such
bell-shaped curve. The bell-shaped curve cross-sectional profile extends from an
initial point or location 0 (i.e., the starting point initially identified under
step 202), and a final point n, which is the edge pixel opposite from the starting
pixel in the gradient direction .theta.. Under a simple, quick method, the CPU 14
determines the centerpoint C by simply dividing n by 2 to identify a median pixel
n' (i.e., n'=n/2). Therefore, the centerpoint C is equal to the coordinates of the
pixel at n' under the following equation:

CLAIMS:

1. In a symbol reading apparatus capable of storing an image of a data collection
symbol, the stored image being comprised of a plurality of pixels and the symbol
having a predetermined pattern of geometric shapes, a method of locating portions
of the shapes within the stored image, the method comprising:

locating a stalking pixel of a shape of the symbol within the stored image;

sequentially identifying adjacent pixels along an edge of the shape within the
stored image from the starting pixel;

performing at least one distortion compensating subroutine selected from a
plurality of distortion compensating subroutines if an adjacent pixel cannot be
located, wherein at least one of the plurality of distortion compensating
subroutines does not fill in the adjacent pixel;

selecting at least one linked pixel in the stored image based on the performing;

repeating the sequentially identifying, performing and selecting;

producing a set of pixels that identify at least a portion of the shape based on

the repeating;

determining if the set of pixels contains representations of one of several selected patterns of geometric portions for corresponding data collection symbology types, a first selected pattern corresponding to the predetermined pattern of geometric shapes of the data collection symbol, wherein the selected patterns of geometric portions include lines and curves represented by a series of substantially adjacent pixels, and wherein the selected patterns do not represent widths of a plurality of shapes as measured along an intersecting sampling path; and

identifying the data collection symbol in the stored image if the detected geometric portions correspond to the first selected pattern.

2. The method of claim 1 wherein sequentially identifying includes:

determining a gradient direction from the starting pixel;

comparing the gradient direction to a predetermined value;

examining a plurality of pixels adjacent to the starting pixel, the adjacent pixels being in forward direction of the starting pixel based on the gradient direction;

selecting a forward pixel as a next edge starting pixel from the plurality of adjacent pixels; and

repeating the determining, comparing, examining and selecting a forward pixel until the starting pixel unfavorably compares to the predetermined value or a forward pixel cannot be selected.

9. A computer implemented method of locating an image of a data collection symbol in a two-dimensional stored image, the two-dimensional stored image being represented by a plurality of points and the data collection symbol having a predetermined pattern of geometric shapes, the method comprising:

detecting geometric portions of the data collection symbol in the two-dimensional stored image based on groups points in the plurality of points;

determining, if the detected geometric portions correspond to one of several selected patterns of geometric portions for corresponding data collection symbology types, a first selected pattern corresponding, to the predetermined pattern of geometric shapes of the data collection symbol wherein the selected patterns of geometric portions includes lines and curves represented by a series of substantially adjacent pixels, and wherein the selected patterns do not represent widths of a plurality of shapes as measured along an intersecting sampling path; and

identifying the data collection symbol in the two-dimensional stored image if the detected geometric portions correspond to the first selected pattern.

     L5: Entry 6 of 8   File: USPT   Aug 1, 2000

DOCUMENT-IDENTIFIER: US 6097839 A
** See image for Certificate of Correction **
TITLE: Method and apparatus for automatic discriminating and locating patterns such
as finder patterns, or portions thereof, in machine-readable symbols

Application Filing Date (1):
19970310

Detailed Description Text (33):
The CPU 14 again performs steps 208, 210, 214, 216, 218, and 220 as the CPU
incrementally examines pixels extending along a gradient direction through the
current shape. If the image intensity value I.sub.m of a currently examined point
is greater than the intensity threshold I.sub.thresh in step 210, or the counter
value n is greater than the maximum X dimension M in step 216, then the CPU 14
outputs the current value of the counter n, the summation of the intensity values
Sum, and the list of X and Y axes coordinates of the points examined along the
gradient direction under step 212, and the subroutine 202 ends.

Detailed Description Text (36):
Referring to FIG. 10, the CPU 14 in step 222 must locate the centerpoint C of such
bell-shaped curve. The bell-shaped curve cross-sectional profile extends from an
initial point or location 0 (i.e., the starting point initially identified under
step 202), and a final point n, which is the edge pixel opposite from the starting
pixel in the gradient direction .theta.. Under a simple, quick method, the CPU 14
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n' (i.e., n'=n/2). Therefore, the centerpoint C is equal to the coordinates of the
pixel at n' under the following equation:

CLAIMS:

1. In a symbol reading apparatus capable of storing an image of a data collection
symbol, the stored image being comprised of a plurality of pixels and the symbol
having a predetermined pattern of geometric shapes, a method of locating portions
of the shapes within the stored image, the method comprising:

locating a stalking pixel of a shape of the symbol within the stored image;

sequentially identifying adjacent pixels along an edge of the shape within the
stored image from the starting pixel;

performing at least one distortion compensating subroutine selected from a
plurality of distortion compensating subroutines if an adjacent pixel cannot be
located, wherein at least one of the plurality of distortion compensating
subroutines does not fill in the adjacent pixel;

selecting at least one linked pixel in the stored image based on the performing;

repeating the sequentially identifying, performing and selecting;

producing a set of pixels that identify at least a portion of the shape based on

the repeating;

determining if the set of pixels contains representations of one of several selected patterns of geometric portions for corresponding data collection symbology types, a first selected pattern corresponding to the predetermined pattern of geometric shapes of the data collection symbol, wherein the selected patterns of geometric portions include lines and curves represented by a series of substantially adjacent pixels, and wherein the selected patterns do not represent widths of a plurality of shapes as measured along an intersecting sampling path; and

identifying the data collection symbol in the stored image if the detected geometric portions correspond to the first selected pattern.

2. The method of claim 1 wherein sequentially identifying includes:

determining a gradient direction from the starting pixel;

comparing the gradient direction to a predetermined value;

examining a plurality of pixels adjacent to the starting pixel, the adjacent pixels being in forward direction of the starting pixel based on the gradient direction;

selecting a forward pixel as a next edge starting pixel from the plurality of adjacent pixels; and

repeating the determining, comparing, examining and selecting a forward pixel until the starting pixel unfavorably compares to the predetermined value or a forward pixel cannot be selected.

9. A computer implemented method of locating an image of a data collection symbol in a two-dimensional stored image, the two-dimensional stored image being represented by a plurality of points and the data collection symbol having a predetermined pattern of geometric shapes, the method comprising:

detecting geometric portions of the data collection symbol in the two-dimensional stored image based on groups points in the plurality of points;

determining, if the detected geometric portions correspond to one of several selected patterns of geometric portions for corresponding data collection symbology types, a first selected pattern corresponding, to the predetermined pattern of geometric shapes of the data collection symbol wherein the selected patterns of geometric portions includes lines and curves represented by a series of substantially adjacent pixels, and wherein the selected patterns do not represent widths of a plurality of shapes as measured along an intersecting sampling path; and

identifying the data collection symbol in the two-dimensional stored image if the detected geometric portions correspond to the first selected pattern.

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L5: Entry 8 of 8   File: USPT   Mar 20, 1990

DOCUMENT-IDENTIFIER: US 4910786 A
TITLE: Method of detecting intensity edge paths

Application Filing Date (1):
19850930

DATE ISSUED (1):
19900320

Brief Summary Text (34):
The pixel values may be gradient magnitudes and directions determined by using a
Gaussian weighted gradient operator.

Brief Summary Text (36):
Accordingly, it is an object of the present invention to provide a method of
detecting intensity edge paths in an image, such image being produced by techniques
such as X-ray, CAT scan, nuclear magnetic resonance, photographic, video recording,
and photodetection techniques, in which a root node having high probability of
lying on an edge path is initially selected and various adjacent nodes are assessed
sequentially to determine the most likely edge path; to provide such a method in
which a metric is calculated for each node based upon the pixel value of the node
and the topology of the path by which the node was reached, such metric being an
indication of the likelihood that the node lies on the edge path; and to provide a
method in which the pixel values are representative of the gradient magnitude and
direction of the image.

Detailed Description Text (15):
One final note. By virtue of its path metric, SEL can provide subsequent processing
tasks with quantitative information concerning the confidence in segments or whole
edges. Other attributes such as length, curvature, direction, and an ordering of
the constituent pixels are explicitly determined and immediately available to
higher level tasks.

Refine Search

Search Results -

Terms	Documents
L3 or L4	8

Database:
US Pre-Grant Publication Full-Text Database
US Patents Full-Text Database
US OCR Full-Text Database
EPO Abstracts Database
JPO Abstracts Database
Derwent World Patents Index
IBM Technical Disclosure Bulletins

Search: L5

[Refine Search]

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Search History

DATE: Wednesday, February 22, 2006   Printable Copy   Create Case

Set Name side by side	Query	Hit Count	Set Name result set
	DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; THES=ASSIGNEE; PLUR=YES; OP=OR		
L5	l3 or L4	8	L5
L4	L1 and @pd<=20000414	2	L4
L3	L1 and @ad<=20000414	8	L3
L2	L1 and @ad<=000414	0	L2
L1	(curv$ same (road$ or street$ or path$) same (determin$ or estimat$)) and (gradient$ near3 pixel$)	43	L1

END OF SEARCH HISTORY